

Histopathological Spectrum of Lesions InHysterectomy Specimens At A Tertiary Care Hospital– One Year Study

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Abstract: Hysterectomy is the most commonly performed major gynecological surgery worldwide .The cause for hysterectomy being done varies from country to country and region to region. Hysterectomy may be total /complete, partial /subtotal /supracervical hysterectomy. The study is a retrospective analysis of 454 cases of hysterectomy specimens received in Department of Pathology ,Govt.Stanley Medical College,Chennai, Tamilnadu during a one year period from January to December 2016. The objective of this study is assess the age distribution of females undergoing hysterectomy and analyze the various histopathological features of uterine lesions in these specimens. In our study , the most common age group who underwent hysterectomy was 41-50 years followed by 31-40 years group and least hysterectomies were done in 71-79 years age group.Total abdominal hysterectomywith bilateralsalpingoophorectomy was the most common type of hysterectomy performed in this study. Most of lesions were myometrial 263 cases (57.9 %), cervix 89cases (19.6%), endometrium 61 cases (13.4%) and ovary 42 cases (9.2%). Hysterectomy still remains the widely used treatment modality in developed and developing countries. All hysterectomy specimens should be sent for histopathological examination regardless of the pre-operative microscopic assessment, especially in malignant disease.

Keywords: Hysterectomy, Simple hyperplasia,Endometrioid Cancer, Carcinoma Cervix, Benign, Malignant, Adenomyosis,Leiomyoma.

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I. Introduction

The female genital tract consists of uterus with endometrium & myometrium, cervix, the ovaries and fallopian tubes which under the influence of different hormones is prone to develop several non-neoplastic and neoplastic conditions. These lesions are observed across all age groups during the life time of a woman contributing significantly to increased morbidity and mortality in females. Though many treatment options are available including medical and conservative surgeries ,hysterectomy still remains the most common gynaecological procedure performed worldwide (2). Historically Charles Clay performed the first subtotal hysterectomy in Manchester, England in 1843 .Thefirst Total abdominal hysterectomy was done in 1929 [3]. Hysterectomy may be total/complete –removal of the body, fundus, and cervix of the uterus; or partial hysterectomy/subtotal/ supracervicalhysterectomy - removal of the uterine body while leaving the cervix intact.Unilateral or bilateral Oophorectomyi.e removal of ovaries and salpingectomy i.e removal of the fallopian tubes is frequently combined with hysterectomy to decrease the riskof ovarian cancer. Hysterectomy is usually performed by a) Abdominal b) Vaginal and c) Laparoscopic methods[4]. According to various researches , it is expected that the frequency ofhysterectomies for non-malignant indications will fall as there are good upcoming alternatives treatment modalities in future [5]. Few of the common reasons forwhich hysterectomyis being done are dysfunctional orabnormal uterine bleeding (DUB/AUB), painful uterine fibroids, uterine prolapse, endometriosis and adenomyosis.Histopathological examination of hysterectomy specimens carries diagnostic and therapeutic significance.

II. Aim Of The Study

Uterine and adnexal pathologies hasnational and regional variation. Hence, this study was conducted with a view to obtain insight into the varied histopathologicalpatterns of lesions in hysterectomy specimens and the age-wise distribution in our institution.

III. Materials And Methods

This is a retrospective study consisting of 454 cases of hysterectomy specimens received in Department of Pathology, GovtStanley Medical College , Chennai, Tamil Nadu during theone year period from

January 2016 to December 2016. As per protocol, on receiving the hysterectomy specimens were relabelled, numbered and fixed in 10% buffered formalin. Large specimens were cut and after appropriate fixation for 10-12 hours, gross features were recorded. Multiple representative bits were taken, processed and paraffin embedded blocks were prepared. Tissue sections from these blocks were then stained with Hematoxylin and Eosin stains (H & E Staining). After thorough microscopic examination a histopathological diagnosis was given.

The lesions were categorized as

- (a) Lesions of the uterine corpus which included the lesions of the endometrium and the myometrium
- (b) Lesions of the cervix
- (c) Lesions of the ovary
- (d) Lesions of the fallopian tube.

IV. Results

In our study involving 454 cases most common age group who underwent hysterectomy was 41-50 years followed by 31-40 years group and least hysterectomies were done in age group 11-20 years. (Table 1). In our study total abdominal hysterectomy and bilateral salphingo-oophorectomy (TAH + BSO) was the most commonly type of hysterectomy performed constituting about 285 cases (62.8%), followed by total abdominal hysterectomy 98 cases (21.6%) and the least performed surgery was vaginal hysterectomy (Table 2). Most of lesions were seen in the myometrium 263 cases (57.9%), followed by cervix 89 cases (19.6%), endometrium 61 cases (13.4%) and ovary 42 cases (9.3%) (Table 3).

Table 1: Age Wise Distribution of Cases

Age group	Number of cases
11-20	1
21-30	12
31-40	114
41-50	228
51-60	66
61-70	28
71-80	5
Total	454

Table 2: Types of Hysterectomies

TYPE OF HYSTERECTOMY	NUMBER OF CASES (%)
Total Abdominal Hysterectomy With Bilateral Salphingo-Oophorectomy	285 (62.8%)
Vaginal Hysterectomy	98 (21.6%)
Total Abdominal Hysterectomy	54 (11.9%)
Total Abdominal Hysterectomy With Unilateral Salphingo-Oophorectomy	9 (2%)
Subtotal Hysterectomy / Supracervical Hysterectomy	8 (1.7%)
Total	454

Table 3: Distribution of The primary Lesions –Based on Anatomical Site Wise

Cervix	89
Endometrium	61
Myometrium	263
Ovary	42
Total	454

In this study, the incidence of intramural Leiomyoma was high followed by chronic nonspecific cervicitis, adenomyosis, chronic salphingitis, simple hyperplasia without atypia and serous cystadenoma ovary. Most common lesion among the endometrium in this study was simple endometrial hyperplasia without atypia followed by, benign endometrial polyp, and endometrial adenocarcinoma (Fig.1 & 2), least common lesion encountered was endometrial stromal nodule, simple endometrial hyperplasia with atypia and complex endometrial hyperplasia without atypia. Among the myometrial lesions leiomyoma and leiomyomata (multiple leiomyomas) were more when compared to the other lesions followed by adenomyosis. Among the cervical lesions chronic cervicitis were more common, followed by chronic cervicitis with squamous metaplasia and carcinoma cervix. Among the ovarian lesions serous cystic lesions were more common which included serous cystadenoma, mucinous cystadenoma, serous carcinomas (fig.3) simple cyst, dermoid cyst and least common was ovarian leiomyoma and Granulosa cell tumor (fig.4).

Table 4: Histopathological Lesions observed in Hysterectomy Specimens

Anatomical Site	Type Of Lesion	No. Of Cases
Cervix (N=187)	Chronic Non-Specific Cervicitis	170
	Chronic Non-Specific Cervicitis With Squamousmetaplasia	7
	Benign Cervical Polyp	1
	Cervical Leiomyoma	2
	Dysplasia Cervix	3
	Carcinoma Cervix	4
Endometrium (N=61)	Normal Endometrium	245
	Atrophic Endometrium	87
	Simple Hyperplasia Without Atypia	35
	Simple Hyperplasia With Atypia	2
	Complex Hyperplasia Without Atypia	2
	Benign Endometrial Polyp	10
	Endometrial Stromal Nodule	1
	Invasive Mole	1
	Endometrial Adenocarcinoma	10
Myometrium (N=304)	Myohyperplasia	10
	Monkeberg's Sclerosis	9
	Adenomyosis	88
	Leiomyoma And Leiomyomata	192
	Leiomyosarcoma	1
	Placenta Increta	4
Ovary (N=42)	Serous Cysts Including Serous Cystadenoma	14
	Mucinous Cystadenoma	5
	Serous Carcinoma	7
	Mucinous Carcinoma	2
	Teratoma	6
	Ovarian Leiomyoma	1
	Granulose Cell Tumor	2
	Endometriotic Cysts	3
	Krukenberg Tumor	2
Fallopian Tube (N=67)	Chronic Salpingitis	61
	Tubal Endometriosis	3
	SalphingitisIsthmicaNodosa	2
	Metastatic Carcinomatous Deposits	1
Total		67

V. Discussion

Hysterectomy (removal of the uterus) is the most commonly performed major gynecological surgery worldwide .Prevalence of hysterectomy varies from country to country, region to region (6,7). Since year 1901 onwards, hysterectomy has become definitive treatment for pelvic pathology including fibroids, abnormal uterine bleeding (AUB), chronic pelvic pain, endometriosis, adenomyosis, uterine prolapse (UV prolapse), pelvic inflammatory disease (PID) and cancer of reproductive organs (8). Hysterectomy gives maximum extent of symptomatic relief and satisfaction to the patient. It provides a definitive cure for many diseases involving the uterus as well as adnexa.This study was conducted toanalyze the patterns of lesions in hysterectomy specimens, the most common age group undergoing hysterectomy in our institution, and to correlate and compare our findings with those of other studies.

In the present study,the commonest estimated age range of hysterectomy with maximum number of patients i.e is 228 (50.2 %)is 41-50 years which is similar to that reported in other studies (9,10). The commonest surgical approach in the present study is total abdominalhysterectomy with bilateral salphingoophorectomy (285 cases, %) followed by vaginal hysterectomy (98 cases, 21.6%) which correlates with Gousia Rahim Rather et al(10) MacKanzieet al (11) studies.The most common clinical indication for hysterectomy in our study is menorrhagia followed by fibroid uterus. Many studies have reported fibroid to be the commonest indication(10, 12). The commonest endometrial pathology observed in our study is atrophic endometrium(87 cases, 19.1%). This is close to the observation made by Kleebkaowet al. (13) Mehboob et al (14) and Gousia Rahim Rather et al (10) reported a higher incidence of atrophic endometrium i.e. 26.53% in their study. Endometrial hyperplasia constituted the second most common endometrial pathology (39cases, 8.6%) in our study. The percentage incidence of endometrial hyperplasia in our study is similar to that reported by Bukhari and Sadiq et al (15), and Gousia Rahim Rather et al (10).

Histopathological examination revealed leiomyoma to be the most common lesion in this study with 192 cases (42.3%) cases. Most of the studies showed leiomyoma as the most common presentation(1,9,16). Second most common lesion was adenomyosis, (88 cases, 19.4%). This is similar to Chandralekha et al (17) and Sharadrutha et al (18) study. Chronic cervicitis is an extremely common condition in adult females, at least at the microscopic level. It is the commonest cervical pathology in our study, detected in 177 cases (39%) cases, which is comparable to that reported by Talukder (19) and Saravanan et al (20). Only four cases of malignant tumors of cervix were observed in the present study. This incidence is close to that reported by Treloar et al (21). Cysts of variable morphology are the most common ovarian lesions in our study. Similar results were reported in other studies et al (10,22,23). Fallopian tubes are complex structures that represent more than conduits from ovary to endometrial cavity. In the present study, majority of the cases revealed no pathological lesion in the fallopian tubes. The significant lesions observed were 61 cases of salpingitis including 6 cases of hydrosalpinx, 2 cases of endometriosis and 1 case of salpingitis isthmica nodosa, which is similar to the study of Bagwan et al and Gousia Rahim Rather et al, in their study also found majority of the fallopian tubes to be histologically unremarkable (10, 24).

VI. Conclusion

Hysterectomy is a very commonly performed gynecological surgery. AUB with underlying pathology is the most important indication for hysterectomy with leiomyoma being the most common pathology diagnosed preclinically and histopathological examination. Hysterectomy still remains the widely used treatment modality in developed and developing countries. All hysterectomy specimens should be sent for histopathological examination regardless of the preoperative microscopic assessment, especially in malignant disease. The present study provides a fair insight into the histological patterns of lesions in hysterectomy specimens in our institution. A wide range of lesions is encountered when hysterectomy specimens are subjected to histopathological examination. The histopathological analysis correlates well with the clinical diagnoses, quite a few lesions are also encountered as pure incidental findings. Hence, it is mandatory that every hysterectomy specimen, even if it grossly appears to be normal, should be subjected to detailed histopathological examination so as to ensure a better postoperative management and follow up of the patient.



Figure: 1- Gross picture show endometrial adenocarcinoma.

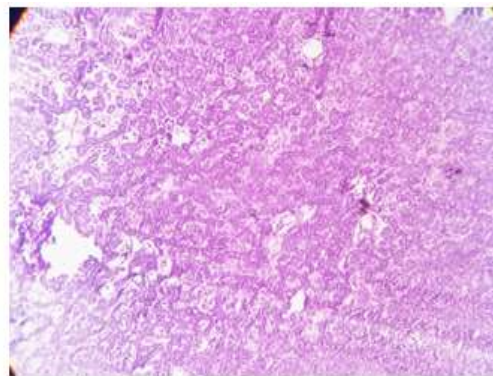


Figure: 2- H&E (10x) picture show endometrial adenocarcinoma.

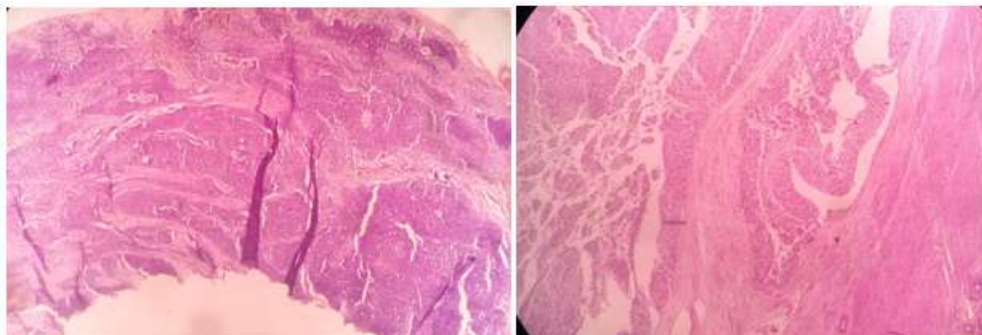


Figure:3- H&E (10x) picture show serous carcinoma -Ovary

Figure:4- H&E (10x) picture show Granulosa cell tumor- Ovary

References

- [1]. Forae GD, Aligbe JU. Histopathological patterns of endometrial lesions in patients with abnormal uterine bleeding in a cosmopolitan population. *J Basic ClinReprodSci* 2013;2:101-4.
- [2]. Wu JM, Wechter ME, Geller EJ. Hysterectomy rates in the United States 2003. *ObstetGynaecol*2007; 110 (5): 1091-95
- [3]. John, A., Rock, M. D., Jhon, D., & Thompson, M. D. (2003). *Telind's Operative Gynaecology*. 1stedition Lipincott –Ravenplace.
- [4]. Yakasai, D. I. (2013). Complications of hysterectomy: A review. *British Journal ofScience*, 9, 23-30.
- [5]. Bahamondes, L., Bahamondes, M. V., &Monteiro, I. (2008). Levonorgestrel-releasing intrauterinesystem: uses and controversies. *Expert review of medical devices*, 5(4), 437-445.
- [6]. Schappert, S. M. (1992). National Center ForHealth Statistics: National Hospital DischargeSurvey; Annual Summary 1990. *Vital Health Stat*,13(110), 1-80.
- [7]. Singh, A., &Arora, A. K. (2008). Whyhysterectomy rate are lower in India. *Indianjournal of community medicine*, 33(3), 196
- [8]. Gupta, G., Kotasthane, D. S., &Kotasthane, V. D.(2010). Hysterectomy: A Clinico-pathologicalCorrelation of 500 cases. *The Internet Journal ofGynaecology and Obstetrics*, 14(1)
- [9]. Histopathological analysis of hysterectomy specimens: one year study, Baral R1, Sherpa P1, Gautam D1, ¹Department of Pathology, Patan Academy of Health Sciences, Lalitpur, Nepal.*journal Pathology of Nepal*(2017)vol 7 1084 – 1086.
- [10]. Patterns of Lesions in Hysterectomy Specimens:A Prospective StudyGousia Rahim Rather, Yudhvir Gupta, SubashBardhwaj, Govt. Medical College, Jammu, J&K (180001) –India, Vol. 15 No. 2, April - June 2013.
- [11]. MacKenzie IZ, Naish C, Rees M, Manek S. 1170consecutive hysterectomies: indications and pathology. *JBr Menopause Soc*2004; 10 (3): 108-12.
- [12]. Jaleel R, Khan A, Soomro N. Clinicopathological study ofabdominal hysterectomies. *Pak J Med Sci*2009; 25 (4):630-34.
- [13]. Kleebkaow P, Maneetab S, Woraluk S, Seejorn K, Thinkamrop J, Komwilaisak R. Preoperative and postoperative agreement of histopathological findings in cases of endometrial hyperplasia. *Asian Pacific J CancerPrev*2008; 9: 89-91
- [14]. Mehboob R, Ahmad N. Unexpected pathology at vaginal hysterectomy for genital prolapse. *Pak J Med Res* 2002; 41(4): 142-44.
- [15]. Bukhari U, Sadiq S. Analysis of the underlying pathological lesions in hysterectomy specimens. *Pak J Pathol*2007; 18(4): 110-12.
- [16]. Domblae V, Gundalli S. *International Journal of Science and Research (IJSR) ISSN (Online): 2319-7064*.
- [17]. Chandralekha J et al. *Int J Res Med Sci*. 2016 jul;4(7):2583-2587
- [18]. Spectrum of Uterine corpus lesions in hysterectomy specimens, Sharadrutha A1, Janaki M2, Department of Pathology,Prathima Institute of Medical Sciences, Karimnagar, Telangana,India.*Perspectives in medical research*, may-august 2017, volume 5, issue2.
- [19]. Talukder SI, Haque MA, Huq MH, Alam MO, Roushan A,Noor Z, Nahar K. Histopathological analysis ofhysterectomy specimens. *Mymensingh Med J* 2007; 16(1): 81-84.
- [20]. Saravanan S, Arnold J, Arul P. Histomorphological Spectrum of Lesions of the Cervix, A Retrospective Study in a Tertiary Care Hospital. *Journal of Evolution of Medical and Dental Sciences* 2015;4:10326-9. Crossref.
- [21]. Treloar SA, Do KA, O'Connor VM, O'Connor DT, Yeo MA, Martin NG. Predictors of hysterectomy: an Australian study. *Am J ObstetGynecol*1999; 180: 945-54.
- [22]. Perveen S, Tayyab S. A clinicopathological review of electiveabdominal hysterectomy. *J Surg Pak* 2008; 13 (1): 26-29
- [23]. Jha R, Pant AD, Jha A, Adhikari RC, Sayami G.Histopathological analysis of hysterectomy specimens.*J Nepal Med Assoc*2006; 45 (163): 283-90
- [24]. Bagwan IN, Harke AB, Malpani MR, Deshmukh SD.Histopathological Study of Spectrum of LesionsEncountered in the Fallopian Tube. *ObstetGynecol*2004; 54 (4): 379-82.

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